

CLAIMS

1. A high-strength bolt having a tensile strength of 1,200 N/mm² or more that is superior in delayed fracture resistance and relaxation resistance, wherein the bolt is prepared by: wire-drawing a bolt steel containing the following elements: C: 0.5 to 1.0% (mass %, the same shall apply hereinafter), Si: 0.55 to 3%, Mn: 0.2 to 2%, P: 0.03% or less (but not 0%), S: 0.03% or less (but not 0%), and Al: 0.3% or less (but not 0%), and containing proeutectoid ferrite, proeutectoid cementite, bainite and martensite at a total areal rate of less than 20% and pearlite in balance; cold-heading the wire into a bolt shape; and then bluing the bolt in a temperature range of 100 to 500°C.
2. The high-strength bolt according to Claim 1, wherein the bolt steel further comprises at least one of the following elements: Cr: 2.5% or less (but not 0%) and Co: 0.5% or less (but not 0%).
3. The high-strength bolt according to Claim 1, wherein the bolt steel further comprises Ni at 1.0% or less (but not 0%).
4. The high-strength bolt according to Claim 1, wherein the bolt steel further comprises Cu at 1.0% or less (but not 0%).
5. The high-strength bolt according to Claim 1, wherein the bolt steel further comprises at least one element selected from Mo, V, Nb, Ti, and W in a total amount of 0.5% or less (but not 0%).
6. The high-strength bolt according to Claim 1, wherein the bolt steel further comprises B at 0.003% or less (but not 0%).
7. The high-strength bolt according to Claim 2, wherein the bolt steel further comprises Ni at 1.0% or less (but not 0%).
8. The high-strength bolt according to Claim 2, wherein the bolt steel further comprises at least one element selected from Mo, V, Nb, Ti, and W in a total amount of 0.5% or less (but not 0%).
9. The high-strength bolt according to Claim 2, wherein the bolt steel further comprises B at 0.003% or less (but not 0%).

10. The high-strength bolt according to Claim 7, wherein the bolt steel further comprises at least one element selected from Mo, V, Nb, Ti, and W in a total amount of 0.5% or less (but not 0%).

11. The high-strength bolt according to Claim 1, wherein the elements in balance are Fe and inevitable impurities.